

REMARKS

Claims –1, 2, and 4-19 are pending in the present Application, and Claims 20-22 have been withdrawn from consideration. No claims have been canceled. Claim 19 has been amended, and no claims have been added, leaving Claims –1, 2, and 4-19 for consideration upon entry of the present Amendment. The Specification has been amended to correct a typographical error.

Claim 19 has been amended to correct certain typographical errors, and not for any reason related to patentability.

No new matter has been introduced by the amendment. Reconsideration and allowance of the claims are respectfully requested in view of the above amendment and the following remarks.

Information Disclosure Statement

Applicants note that the Examiner has not considered the art submitted in the Information Disclosure Statement filed electronically on April 24, 2006. Applicants respectfully request that the art submitted in this Information Disclosure Statement be considered and a fully initialed PTO Form A820 be returned to the Applicants.

Amendment To The Specification

Applicants have amended the specification at paragraph [0090] to correct typographical errors.

Claim Rejections Under 35 U.S.C. § 102(b) and § 103(a)

Claims 1, 2, and 4-19 stand rejected under 35 U.S.C. § 102(b), as allegedly anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 6,365,066 to Podszun, et al. (“Podszun”) for the reasons set forth in paragraph 6 of the office action of December 19, 2005. Applicants respectfully traverse this rejection.

To anticipate a claim, a reference must disclose each and every element of the claim. *Lewmar Marine v. Variant Inc.*, 3 U.S.P.Q.2d 1766 (Fed. Cir. 1987). For an obviousness

rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988).

The Examiner has stated that “in view of the substantially identical composition of Podszun and the composition as claimed the examiner has a reasonable basis to set forth a 102/3 rejection.” (Office Action dated April 25, 2006 at page 5) The Examiner fails to provide any rationale for this contention.

The present claims are directed to an article having a textured exterior surface that effectively releases biocidal metals from the exterior surface of the article. As disclosed in the Examples of the present Application, the textured exterior surface improves the biocidal metal release properties of the article. Claims 1, 2, 4, and 5 of the present Application are further directed to an article comprising an inorganic biocidal agent wherein the article has a biocidal metal release factor greater than 2.5. The textured surface of the present claims can therefore advantageously increase the release of biocidal metals leading to a dramatic decrease in the growth of pathogenic organisms.

Podszun, in contrast, fails to teach or suggest an article having a textured exterior surface, the specific claimed biocidal metal release properties, or killing of *E. coli* or *Staphylococcus aureus*. Podszun is directed to antifouling coatings that are applied to articles in contact with sea water to prevent infestation (i.e., attachment and growth) of algae and other marine organisms. (Abstract, Col. 1, ll. 57-59) Because Podszun fails to disclose a textured exterior surface as well as the specific biocidal metal release properties related to such a surface, Applicants dispute that Podszun discloses a substantially identical composition.

The Examiner has further stated that “the teachings of Podszun et al. generically includes all surfaces, such as smooth and textured surfaces, as well as the textured composition as claimed.” (Office Action dated April 25, 2006 at page 5) Applicants respectfully request that the Examiner provide support for the contention that Podszun expressly or inherently discloses a textured surface. Applicants dispute that the teachings of Podszun generically includes a textured surface. Applicants respectfully submit that the smooth surfaces provided by a thermoplastic article must be modified to provide a textured surface. As disclosed in the present specification, an article may be formed by a suitable means and then texturized by mechanically or chemically abrading the exterior surface of the article. (¶ [0087]) In another embodiment, the

textured surface is provided by calendering rolls wherein the top roll and optionally the bottom roll comprise surface discontinuities or protrusions. (¶ [0088]) In one embodiment, the protrusions have a length (Ra) of about 200 nanometers to about 20 micrometers. In one embodiment, the textured surface is provided by molding the article in a mold having surface discontinuities or protrusions that impart a textured surface. (¶ [0089]) In one embodiment, the protrusions have a length (Ra) of about 50 nanometers to about 20 micrometers. Podszun, in contrast, completely fails to disclose modifying the smooth surface of the coating to provide a textured surface.

Applicants respectfully submit that Podszun expressly teaches away from a textured surface because Podszun specifically states that a comparative example is not in accordance with the invention because the coating has a rough surface. (Col. 5, ll. 55-67; Example 6). Applicants further submit that Podszun discloses a coating having a smooth surface rather than a textured surface. Specifically, Examples 4 and 5 of Podszun disclose dispersing a microencapsulated heavy-metal free biocide into a polymer solution. With the aid of a doctor blade, the dispersion was applied to a metal plate coated with epoxy lacquer to provide a homogeneous coating. This coating is therefore a smooth coating and is not textured. Podszun fails to disclose modifying the surface provided by the doctor blade to provide a textured surface. For at least these reasons, Podszun clearly discloses a smooth surface. Applicants therefore dispute the Examiner's contention that the teaching of Podszun generically includes textured surfaces .

Because the claimed exterior textured surface is completely missing from Podszun, Applicants submit that Podszun fails to teach all elements of the claims. Podszun therefore cannot anticipate the present claims.

The Examiner has further stated that the unexpectedly improved biocidal metal release properties of a textured article are "expected properties since a smooth surface has reduced surface area." (Office Action dated April 25, 2006 at page 5) Applicants respectfully submit that this conclusory statement simply states what an artisan may try to do because Podszun fails to provide motivation or a reasonable expectation of success. Podszun fails to disclose a textured surface or the improved biocidal metal release resulting therefrom.

Obviousness is not based upon what an artisan could do or what an artisan may try, but is based upon what an artisan would be motivated to do with an expectation of success.

“Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, No. 04-1616 (Fed. Cir. March 22, 2006) citing *In re Lee*, 277 F.3d 1338, 1343-46 (Fed. Cir. 2002); and *In re Rouffett*, 149 F.3d 1350, 1355-59 (Fed. Cir. 1998). “When the Board does not explain the motivation, or the suggestion or teaching, that would have led the skilled artisan at the time of the invention to the claimed combination as a whole, [it is] infer[ed] that the Board used hindsight to conclude that the invention was obvious.” *Id.* Additionally, “[a]lthough the suggestion to combine references may flow from the nature of the problem, ‘[d]efining the problem in terms of its solution reveals improper hindsight in the selection of the prior art relevant to obviousness.’” (internal citation omitted) *Id.*, quoting *Monarch Knitting Mach. Corp. v. Sulzer Morat GmbH*, 139 F.3d 877, 881 (Fed. Cir. 1998); *In re Beattie*, 974 F.2d 1309, 1312 (Fed. Cir. 1992).

Applicants respectfully submit that Podszun fails to provide motivation or a reasonable expectation of success to texturize a surface to improve biocidal metal release. Podszun teaches a smooth surface; Podszun expressly states that a rough surface is not in accordance with the invention; and Podszun is directed to a coating that reduces biocidal metal release into the ocean. For at least these reasons, Podszun fails to provide motivation or a reasonable expectation of success to texturize a surface to improve biocidal metal release. Applicants also respectfully submit that the Examiner’s conclusory statement about what would be obvious to try is inadequate to provide motivation or a reasonable expectation of success.

Even where a *prima facie* case of obviousness exists, obviousness may be rebutted by a showing of “unexpected results,” i.e., comparative test data showing that the claimed invention possesses unexpectedly improved properties, or properties that the prior art does not have. *In re Dillon*, 919 F.2d 688, 692-93, 16 U.S.P.Q.2d 1897, 1901 (Fed. Cir. 1990) (emphasis added). The results must be of both statistical and practical significance. *Ex parte C*, 27 U.S.P.Q.2d 1492, 1497 (Bd. Pat. App. & Int. 1993).

Objective evidence or secondary considerations such as unexpected results are relevant to the issue of obviousness and must be considered in every case in which they are present. MPEP § 2141(III). Examiners must consider comparative data in the specification which is intended to illustrate the claimed invention in reaching a conclusion with regard to the obviousness of the

claims. *In re Margolis*, 785 F.2d 1029, 228 USPQ 940 (Fed. Cir. 1986); MPEP § 716.01(a). Evidence of unexpected properties may be in the form of a direct or indirect comparison of the claimed invention with the closest prior art which is commensurate in scope with the claims. *See In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980); MPEP § 716.02(b) - § 716.02(e).

Applicants respectfully submit that the Examiner has failed to consider the comparative data in the specification that demonstrate the unexpected results obtained by the present composition. Instead the Examiner has made a conclusory statement that the unexpected results are “expected” based on an obvious to try standard. (Office Action dated April 26, 2006 at page 4)

The article of the present application is modified by texturizing an exterior surface to provide the claimed textured exterior surface which results in the claimed biocidal metal release properties. (¶ [0017]). The unmodified (i.e., non-textured) surface corresponds to the Examples of the present Application which are labeled “As such.” The Examples disclose using light friction to provide textured articles that had roughly a 10-fold greater average roughness than the “As such” samples. (¶ [0098]; Table 2) The textured articles provide increased biocidal metal release as compared to the “As such” samples. Samples B, C, E, and F all show significantly increased silver release when the surfaces are texturized. ((¶ [0099]; Table 2) As shown in Table 6 of the Application, the textured surfaces exhibit high biocidal efficacy indicating effective biocidal metal release properties. It is worth pointing out that even a small increase in biocidal metal release results in a large improvement in biocidal activity. The smooth surfaces of the unmodified, non-textured but otherwise identical films exhibit low biocidal efficacy indicating less effective biocidal metal release properties. (¶ [0106]). For example, an article comprising 0.5 wt% of biocidal agent Irgaguard B5021 (Sample W) is over one hundred fold more effective with a textured surface than without. (Tables 5 and 6). All the samples in Table 6 similarly demonstrate that texturizing a surface provides a one to two log improvement in biocidal efficacy. Applicants submit that the textured articles have unexpectedly improved biocidal activity compared to the nontextured articles, which approximately correspond to the nontextured coating in Podszun. In some examples, the improvement is greater than additive (a roughly 10-fold increase in surface roughness provides a 100-fold or 2-log improvement in biocidal efficacy).

The Examiner does not dispute that the textured article has improved biocidal activity compared to the nontextured article. Applicants respectfully submit that the Examiner has completely failed to apply the *Graham* factors in the obviousness inquiry as required and failed to weigh objective evidence of nonobviousness. Applicants respectfully submit that the unexpected results disclosed in the Examples would successfully rebut a *prima facie* case of obviousness, if it existed.

For at least the foregoing reasons, reconsideration and withdrawal of these rejections are respectfully requested.

Double Patenting

Claims 1, 2, and 4-19 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 – 20 of copending Application No. 10/797,975.

Since neither the present claims nor the claims of copending Application No. 10/797,975, have been patented, there is no way that double patenting can be determined (nothing is patented and there is no way to compare the final claims until one of the cases has been patented and the other claims are otherwise allowable). Hence, the Applicants respectfully request that the Examiner withdraw these obviousness double patenting rejections until the claims are in final form and otherwise in condition for allowance, and the case over which double patenting is alleged is allowed. Until such time, there is no double patenting and no way to determine double patenting.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and withdrawal of the objection(s) and rejection(s) and allowance of the case are respectfully requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 50-3621.

Respectfully submitted,

CANTOR COLBURN LLP

By Karen A. LeCuyer
Karen A. LeCuyer, Ph.D.
Registration No. 51,928

Date: July 6, 2006
CANTOR COLBURN LLP
55 Griffin Road South
Bloomfield, CT 06002
Telephone (860) 286-2929
Facsimile (860) 286-0115
Customer No.: 23413